Message

From: D'Ambro, Emma [dambro.emma@epa.gov]
Sent: 4/9/2020 9:02:09 PM
To: Strynar, Mark [Strynar.Mark@epa.gov]
Subject: RE: todays presentation

Hi Mark,

Thanks for sharing all of these! I looked through them all quickly today but will give them a closer study once I start working on the chemistry more seriously. My main first thought is that much of this looked to be condensed-phase and thermal reactions, but I also noticed for the first time that Chemours is reporting the Nafion BP2 as an air emission (albeit the sulfonyl fluoride & not sulfonic acid). Thanks for sharing all of this, looking forward to digging into it more!

Emma

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From: Strynar, Mark <Strynar.Mark@epa.gov>
Sent: Wednesday, April 8, 2020 5:13 PM
To: D'Ambro, Emma <dambro.emma@epa.gov>
Subject: Re: todays presentation

Last one then I quit for the day. The vinyl ethers will thermally transform to the acyl fluorides which then in water turn into the acids.

Mark

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From: Strynar, Mark <Strynar.Mark@epa.gov>
Sent: Wednesday, April 8, 2020 4:46 PM
To: D'Ambro, Emma <dambro.emma@epa.gov>
Subject: Re: todays presentation

I know I have sent this to you before but I want to call out a section. What most don't know is the HFPO-DAF is and intermediate to make 1) PPVE and 2) HFPO-DA (or GenX). The legend at the top shows via colored arrows what is happening at each step.

I am also attaching a scheme that also shows how the PPVE can be converted chemically to a 1H substituted PFECA.

Last PPVE (and many other C=C polyfluoro we see from Chemours) can thermally rearrange to acyl fluorides like HFPO-DAF and become carboxylic acids when the fluorine leaves in water. I cant yet find a scheme that shows this, however I will if I can find it.

We can chat on this later if you want.

Mark

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From: D'Ambro, Emma <dambro.emma@epa.gov>
Sent: Wednesday, April 8, 2020 4:18 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: todays presentation

Hi Mark,

Thanks for pointing that out and my sincere apologies for missing that reference. I almost emailed you to check that reference list was complete, wish I had now! Attached the slides, with updated references. If you have any comments/questions/suggestions, feel free to send them! And if you do notice I'm missing any other references please let me know.

Emma

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From: Strynar, Mark <Strynar.Mark@epa.gov>
Sent: Wednesday, April 8, 2020 1:51 PM
To: D'Ambro, Emma <dambro.emma@epa.gov>
Subject: todays presentation

Hi Emma,

Good job on your presentation today. Just wanted to let you know in your slide where you first introduce GenX I published on that topic way back in 2015 on the Cape fear river before the other refs you have for Sun, McCord and others. We also identified PFMOAA, Nafion BP1 and BP2 as well as 8 other related PFAS originating from Chemours. If you can share I would love to take a closer look at your slides.

Cheers,
Mark

Identification of Novel Perfluoroalkyl Ether Carboxylic Acids (PFECAs) and Sulfonic Acids (PFESAs) in Natural Waters Using Accurate Mass Time-of-Flight Mass Spectrometry (TOFMS)

Mark Strynar, Sonia Dagnino, Rebecca McMahen, Shuang Liang, Andrew Lindstrom, Erik Andersen, Larry McMillan, Michael Thurman, Imma Ferrer, and Carol Ball

Environmental Science & Technology 2015 49 (19), 11622-11630

DOI: 10.1021/acs.est.5b01215

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